



AF
Z.M.

PATENT
Attorney Docket No. M-11736US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Reynaldo Gil et al.

Application No. 10/028,542

Filed: December 21, 2006

Art Unit: 3623

Examiner: Jeanty, Romain

For: SUPPLY CHAIN MANAGEMENT

**TRANSMITTAL OF
APPELLANTS' APPEAL BRIEF**

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In accordance with 37 CFR 1.192, appellants hereby submit Appellants' Brief on Appeal (Compliant).

The items checked below are appropriate:

1. Status of Appellants

This application is on behalf of ☒ other than a small entity or ☐ a small entity.

The verified statement ☐ is attached or ☐ was filed on .

2. Fee for Filing Brief on Appeal

Pursuant to 37 CFR 1.17(e), the fee for filing the Brief on Appeal is for: ☒ other than a small entity or ☐ a small entity.

Brief Fee Due \$0

3. Oral Hearing

☐ Appellants request an oral hearing in accordance with 37 CFR 1.194.

CERTIFICATE OF MAILING

I hereby certify that this document (along with any documents referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Date: December 21, 2006


Christina M. Zemar

In re Appln. of Reynaldo Gil et al.
Application No. 10/028,542

4. Extension of Time

- ☐ Appellants petition for a one-month extension of time under 37 CFR 1.136, the fee for which is \$110.00
- ☒ Appellants believe that no extension of time is required. However, this conditional petition is being made to provide for the possibility that appellants have inadvertently overlooked the need for a petition and fee for extension of time.

Extension fee due with this request: \$

5. Total Fee Due

The total fee due is:

Brief on Appeal Fee	\$ 0.00
Request for Oral Hearing	\$ 0.00
Extension Fee (if any)	\$ 0.00


Total Fee Due: \$0.00

6. Fee Payment

- ☐ Attached is a check in the sum of \$.
- ☐ Charge Account No. 503594 the sum of \$. A duplicate of this transmittal is attached.

7. Fee Deficiency

- ☒ If any additional fee is required in connection with this communication, charge Account No. 503594. A duplicate copy of this transmittal is attached.


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Date: December 21, 2006



PATENT
Attorney Docket No. M-11736US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: Reynaldo Gil et al.

Art Unit: 3623

Application No. 10/028,542

Examiner: Jeanty, Romain

Filed: December 19, 2001

For: SUPPLY CHAIN MANAGEMENT

APPELLANTS' APPEAL BRIEF (Compliant)

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

This compliant Appellants' Appeal Brief is submitted in response to the Notification of Non-Compliant Appeal Brief mailed November 21, 2006. In support of the appeal from the final rejection dated June 16, 2006, Appellants now submit their Brief.

Real Party In Interest

The patent application that is the subject of this appeal is assigned to WORLDCHAIN, Inc., but has been acquired by ILLINOIS TOOL WORKS, INC.

Related Appeals and Interferences

There are no appeals or interferences that are related to this appeal.

Status of Claims

Claims 1-50 are pending. Claims 1-20, 22-50 stand rejected under 35 U.S.C. §102(e). Claim 21 stands rejected under 35 U.S.C. §103(a). Applicants traverse the rejections.

Status of Amendments

All amendments in the application have been entered.

Summary of Invention

Claim 1: An automated method for managing a transaction involving an enterprise and at least one partner in a supply chain (Figure 4, page 15, line 3, to page 19, line 2), the method comprising:

- receiving a request (82, p. 16, l. 1) for the transaction from an end-user or the partner;
- accessing real-time data relevant to the transaction from an existing partner system (92, 96; page 16, lines 3-6);
- generating a context for the transaction using the real-time data (96, 86, 88, 104, or 106; page 16, lines 6, 24-25, and 31); and
- processing the request in the context for the transaction (108, 110; page 16, line 7).

In one embodiment of the present invention, a method for managing a transaction involving an enterprise and at least one partner in a supply chain is provided. A request (82) for a transaction involving an enterprise and at least one partner in a supply chain is received from an end-user or the partner. Real-time data relevant to the transaction is accessed from an existing partner system (92, 96). A context for the transaction is generated using real-time data (96, 86, 88, 104, or 106). The request is processed in the context for the transaction (108, 110). (See Figure 4 and the specification as originally filed at page 15, line 3, to page 19, line 2).

Claim 17: A system for managing a transaction involving an enterprise and at least one partner in a supply chain (Figures 4 and 5, page 15, lines 33, to page 21, line 20), the system comprising:

- an interface (112, page 17, line 22; 146, 148, page 19, lines 9-11) operable to receive a request (90, page 16, lines 2-3) for the transaction from an end-user or the partner; and
- a processing facility (14, page 17, lines 19-21 and page 19, line 6; 132, 134, 136, 138, page 19, lines 7-8) in communication with the interface, the processing facility operable to access real-time data (92, 96, page 16, lines 3 and 6) relevant to the transaction from an existing partner system (102, page 16, line 34), the processing facility operable to generate a context for the transaction using the real-time data (96, page 16, line 1; 86, 88, page 16, lines 23-35; 104 or 106, page 17, lines 12-14), the processing facility operable to process the request in the context for the transaction (108, 110, page 16, line 7).

In another embodiment of the present invention, a system for managing a transaction involving an enterprise and at least one partner in a supply chain is provided. The system may include an interface (112, 146, 148) and a processing facility (14, 132, 134, 136, 138).

The interface is operable to receive the request (90) for the transaction from the end-user or the partner. The interface is in communication with the processing facility. The processing facility is operable to access real-time data (92, 96) relevant to the transaction from an existing partner system (102), to generate a context for the transaction using the real-time data (96, 86, 88, 104, or 106), and to process the request in the context for the transaction (108, 110). (See Figures 4 and 5 and page 15, lines 33, to page 21, line 20 of the specification as originally filed.)

Claim 32: A system for managing one or more transactions involving an enterprise and at least one partner in a supply chain (Figures 5, 6 and 13; page 19, line 5, to page 24, line 16, and page 35, line 1, to page 38, line 4), the system comprising:

a database (134, page 19, lines 7-20; 192, page 23, lines 1-19; 300, 302, page 36, lines 8-32) operable to store real-time data relating to the one or more transactions, the database operable to maintain a respective context for each transaction; and

an execution process engine (132, page 19, line 7, to page 20, line 10; 188, page 22, line 28, to page 23, line 13; 238, 292, page 35, lines 2-12) operable to execute a respective workflow (140, page 19, line 29, to page 20, line 10, and page 35, lines 15-27) in the context for each transaction using the real-time data, each workflow comprising a plurality of tasks to be performed by the enterprise or the partner in order to fulfill the respective transaction.

In an embodiment of the present invention, an embodiment of a system for managing one or more transactions involving an enterprise and at least one partner in a supply chain is provided. The system may include a database (134, 192, 300, 302) and an execution process engine (132, 188, 238, 292). The database is operable to store real-time data relating to one or more transactions and to maintain a respective context for each transaction. The execution process engine is operable to execute a respective workflow (140) in the context for each transaction using the real-time data. Each workflow may include a plurality of tasks to be performed by the enterprise or the partner in order to fulfill the respective transaction. (See Figures 5, 6 and 13 as well as page 19, line 5, to page 24, line 16, and page 35, line 1, to page 38, line 4 of the specification as originally filed.)

Claim 38: A system for processing a transaction involving an enterprise and at least one partner in a supply chain (Figure 5; page 19, line 5, to page 21, line 20), the system comprising:

a database (134, page 19, lines 7-20) operable to store real-time data relating to the transaction;

at least one process workflow (140, page 19, line 29, to page 20, line 10) executing on a processing facility (132, page 19, line 7, to page 20, line 10), the process workflow operable to process the transaction; and

a data access layer (136, page 19, lines 20-21, page 20, lines 28-30) operable to provide the process workflow access to the real-time data relating to the transaction, thereby providing a context for the transaction during processing.

In still another embodiment of the present invention, a system for processing a transaction involving an enterprise and at least one partner in a supply chain is provided. The system may include a database (134), at least one process workflow (140) executing on a processing facility (132), and a data access layer (136). The database (134) is operable to store real-time data relating to the transaction. The process workflow (140) is operable to process the transaction. The data access layer (136) is operable to provide the process workflow (140) access to the real-time data relating to the transaction, thereby providing a context for the transaction during processing. (Figure 5; page 19, line 5, to page 21, line 20 of the specification as originally filed).

Claim 41: A network system for managing a supply chain (Figures 8, 9 and 10; page 27, line 22, to page 30, line 14), the network system comprising:

a network execution component (238; page 28, lines 18-23, page 30, lines 8-14, page 35, lines 2-12) operable to administer a transaction involving an enterprise and at least one partner in the supply chain; and

a network domain gateway (234; page 28, lines 10-15, page 29, lines 32-35) in communication with the network execution component, the network domain gateway operable to communicate with a partner coordinator component (228; page 27, line 28, to page 28, line 5, page 29, lines 30-35, page 30, lines 11-14) integrated with an existing system of the partner to provide real-time data relevant to the transaction from the existing system of the partner to the network execution component.

In yet another embodiment of the present invention, a network system for managing a supply chain is provided. The system may include a network execution component (238) and a network domain gateway (234). The network execution component (238) is operable to administer a transaction involving an enterprise and at least one partner in a supply chain. The network execution component (238) is in communication with the network domain gateway (234). The network domain gateway (234) is operable to communicate with a partner coordinator component (228) integrated with an existing system of the partner to provide real-time data relevant to the transaction from the existing system of the partner to

the network execution component (238). (See Figures 8, 9 and 10 and page 27, line 22, to page 30, line 14 of the specification as originally filed.)

Grounds of Rejection to be Reviewed on Appeal

Claims 1-20 and 22-50 stand rejected under 35 U.S.C. §102(e) as being anticipated by Stowell et al (U.S. 20020099579).

Claim 21 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Stowell et al.

Argument

Claims 1, 3-31 and 41-50 stand or fall together. Claim 2 stands alone. Claims 32-40 stand or fall together.

Claims 1-20 and 22-50 stand rejected under 35 U.S.C. §102(e) as being anticipated by Stowell et al (U.S. 20020099579). Claim 21 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Stowell. Applicants respectfully traverse the rejections.

The Examiner has failed to show how Stowell discloses each of the claimed elements of claims 1-31 and 41-50.

Claims 1-16:

With regard to claim 1, the Examiner asserts that the claimed step of accessing real-time data relevant to the transaction from an existing partner system is shown in paragraph 26 of the reference relied upon. However, the cited paragraph does not appear to provide any teaching regarding real-time data. Likewise, the Examiner asserts that paragraph 182 of Stowell teaches the claimed step of generating a context for the transaction using the real-time data.

The referenced paragraph appears to teach a system for generating alerts, not a context, as claimed. Using the example from the specification as originally filed, there appears to be no teaching or suggestion for generating a context using, for example, a purchase order number, to identify, gather, forward, access, and process data and initiate and direct tasks and actions for the transaction.

Nor does there appear to be any teaching for generating and maintaining a context on the basis of such information as for example, the type of transaction (e.g., purchase order,

service request, installation request, warranty matter, replacement request, etc.); the names, addresses, and contact information of the partners involved in the transaction; the name, address, and contact for an end-user (e.g., consumer) which initiated the transaction; the purchase/service request order number for the transaction; the date on which the transaction was initiated; the dates on which the partners involved in the transaction was notified; the dates on which the involved partners completed tasks related to the transaction (e.g., shipped product, made service call to end-user's location, completed installation of new product, etc.); and the like. Nor is it apparent what real-time data is used and how it generates a context in the cited reference paragraph.

In addition, the reference relied upon indicates that it is directed to a “**stateless**, event-monitoring server system for use in monitoring performance between buyers and suppliers”. (Stowell, Abstract, emphasis added.) The Microsoft Press Computer Dictionary (3rd edition, 1997) defines stateless as “of or pertaining to a system or process that participates in an activity without monitoring all details of its state.” The second definition of The Illustrated Dictionary of Electronics (4th edition, 1988) defines state as “the physical or electrical condition or status of a component, device, circuit, or system.” Copies of the relevant pages are enclosed for the convenience of the Board. The Computer Dictionary also defines real-time as follows:

Of or relating to a time frame imposed by external constraints. Real-time operations are those in which the machine's activities match the human perception of time or those in which computer operations proceed at the same rate as a physical or external process. Real-time operations are characteristic of aircraft guidance systems, transaction-processing systems, scientific applications, and other areas in which a computer must respond to situations as they occur (for example, animating a graphic in a flight simulator or making corrections based on measurements).

The Abstract portion of the reference appears to teach to one of ordinary skill in the art that Stowell is not concerned with the current state of the system, which, in addition to the lack of an explicit teaching relating to real-time data, is an additional suggestion that Stowell does not collect real-time data or generate a context for a transaction based on real-time data.

Exemplary embodiments of the present invention regarding real-time data and generating a context for a transaction are discussed in paragraph 62 of the present published application (page 14, line 22 et seq. of the application as originally filed) and paragraph 81 (page 19, line 32 et seq.).

At least these elements of the claimed invention do not appear to be taught by the reference relied upon as applied by the Examiner. These elements not having been shown to be disclosed by Stowell, the Examiner has not established that the invention as set forth in claim 1 is anticipated by Stowell. Therefore, the present rejection is improper.

These elements being absent from the base claim, they are also absent from the dependent claims, which may contain additional limitations that distinguish the claimed invention from the reference relied upon. Claims 2-16, which depend from claim 1, are not anticipated for at least the same reasons described above for claim 1.

Claim 2

With regard to claim 2, paragraph 140 of the reference relied upon also does not appear to teach a partner coordinator component integrated with the existing partner system. The specification as originally filed states as follows: "At step 572, the partner coordinator component 180 translates the document from XML into a format capable of being read by a partner ERP system 198, and routes the document to the Partner ERP." See page 48, line 3 et seq.

The paragraph cited by the Examiner does not appear to include a teaching for translating a document from one format to another format capable of being read by a partner system. Nor is it apparent how the cited paragraph teaches a component integrated with the existing partner system.

Claims 17-31:

Similarly, the Examiner has rejected independent claim 17 based on the same rationale as claim 1. Applicants submit the same rationale offered above with respect to claim 1. The reference relied upon, as applied by the Examiner, does not appear to teach each and every element of the claimed invention. Claims 18-31, which depend from claim 17, are not anticipated for the at least the same reasons described above for claims 1 and 17.

Claims 41-50:

Similarly, the Examiner has rejected independent claim 41, from which claims 42-50 depend, based on the same rationale as claim 1. Applicants submit the same rationale offered above with respect to claim 1. The reference relied upon, as applied by the Examiner, does not appear to teach each and every element of the claimed invention. Claims 41-50 are not anticipated for the at least the same reasons described above for claim 1.

Claim 21:

The Examiner has also rejected claim 21 under 35 U.S.C. §103(a) as being unpatentable over Stowell. Applicants traverse. As pointed out above, the reference relied upon, as applied by the Examiner, does not appear to teach each and every element of the claimed invention for claim 17, from which claim 21 depends. The Examiner having failed to point out where each and every element of the base combination is taught in the reference relied upon, these elements are also missing from the further refinement recited in claim 21. Applicants respectfully submit that the Examiner has failed to show how each and every element of claim 21 is taught or suggested in the reference relied upon and no prima facie case for obviousness has been established.

Stowell does not disclose each and every element of the invention as set forth in claims 32-40.

With respect to independent claim 32, from which claims 33-37 depend, and independent claims 38, from which claims 39 and 40 depend, the reference relied upon, as applied by the Examiner, does not appear to teach all the elements of the claimed invention. Paragraph 185, as cited by the Examiner, does not appear to teach a database operable to store real-time data for one or more transactions. It is not apparent that the cited paragraph teaches the storage of real-time data. The specification as originally filed describes examples of real-time data at page 17, line 1 et seq.:

This real-time data may include reference data and transaction data. Reference data can specify, for example, inventory levels and parts numbers. Transaction data can specify, for example, numbers for purchase orders, shipping receipts, invoices for various transactions in which the respective partner is involved; the dates and times at which the partners were notified, alerted, or requested to take actions or work on tasks; the kinds of tasks, actions, and the like required to be performed by the partners (e.g., pulling a product from inventory, packaging a product, delivering a product, making a service call to a customer, installing a machine at a customer site, repairing a machine, etc.); the dates and times at which the actions or tasks were completed; and the like.

It is not apparent from the cited reference that Stowell teaches a database operable to store data of this nature.

Also, as noted above with regard to claim 1, the paragraphs cited by the Examiner do not appear to teach a database operable to maintain a respective context for each transaction.

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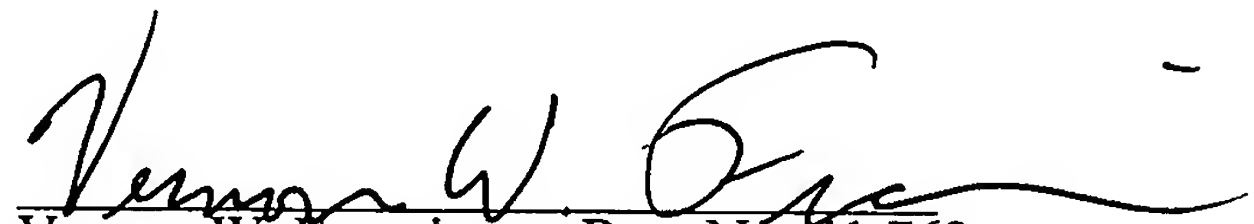
Nor is it apparent that the cited reference teaches an execution process engine operable to execute a respective workflow in the context for each transaction using the real-time data. The referenced paragraph 185 does not appear to teach maintaining a context for each transaction nor real-time data relating to the transactions.

The reference relied upon, as applied by the Examiner, does not appear to teach all the elements of claim 32. Therefore, the Examiner has not established that Stowell anticipates claims 32-40.

Conclusion

For the reasons given above, the present invention is considered to be in proper condition for allowance and action to that end is respectfully requested.

Respectfully submitted,



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Date: December 21, 2006

CLAIMS APPENDIX

1. (Original) An automated method for managing a transaction involving an enterprise and at least one partner in a supply chain, the method comprising:

receiving a request for the transaction from an end-user or the partner;
accessing real-time data relevant to the transaction from an existing partner system;
generating a context for the transaction using the real-time data; and
processing the request in the context for the transaction.

2. (Original) The method of claim 1, wherein said accessing comprises communicating with a partner coordinator component integrated with the existing partner system.

3. (Original) The method of claim 1, wherein the real-time data comprises transaction data specifying a status for the transaction.

4. (Original) The method of claim 1, wherein the real-time data comprises reference data relating to the partner.

5. (Original) The method of claim 1, wherein accessing comprises receiving the real-time data in extensible markup language (XML) format.

6. (Original) The method of claim 5, further comprising converting the real-time data into a format useable by a network system, the network system operable to maintain the context for the transaction.

7. (Original) The method of claim 1, further comprising maintaining a content for the transaction at a network system.

8. (Original) The method of claim 7, further comprising:
identifying the context for the transaction based upon the request; and
routing the request for processing of the transaction.

9. (Original) The method of claim 1, further comprising sending a response to the request to the end-user or the partner.

10. (Original) The method of claim 1, wherein processing comprises initiating a workflow for the transaction at a network system.

11. (Original) The method of claim 10, wherein the workflow comprises a plurality of tasks to be performed by the enterprises or partner in order to fulfill the transaction.

12. (Original) The method of claim 11, wherein processing comprises notifying the partner of any tasks to be performed by the partner.

13. (Original) The method of claim 10, wherein processing comprises initiating at least one process manager routine for managing the workflow.

14. (Original) The method of claim 11, wherein the workflow comprises a routing workflow for routing the request to the enterprise or the partner for performance of the tasks.

15. (Original) The method of claim 1, wherein processing comprises alerting the partner or the enterprise.

16. (Original) The method of claim 1, wherein processing comprises monitoring a service level associated with the transaction.

17. (Original) A system for managing a transaction involving an enterprise and at least one partner in a supply chain, the system comprising:

an interface operable to receive a request for the transaction from an end-user or the partner; and

a processing facility in communication with the interface, the processing facility operable to access real-time data relevant to the transaction from an existing partner system, the processing facility operable to generate a context for the transaction using the real-time data, the processing facility operable to process the request in the context for the transaction.

18. (Original) The system of claim 17, wherein the real-time data comprises transaction data specifying a status of the transaction.

19. (Original) The system of claim 17, wherein the real-time data comprises reference data relating to the partner.

20. (Original) The system of claim 17, further comprising a database operable to maintain the context for the transaction.

21. (Original) The system of claim 20, wherein said database comprises a relational database.

22. (Original) The system of claim 17, wherein the real-time data is accessed in extensible markup language (XML) format.

23. (Original) The system of claim 22, wherein said processing facility is operable to convert real-time data into a format usable by the system.

24. (Original) The system of claim 22, wherein the processing facility is operable to send a response to the request to the end-user or the partner.

25. (Original) The system of claim 17, wherein the processing facility is operable to initiate a workflow for the transaction at a network system.

26. (Original) The system of claim 25, wherein the workflow comprises a plurality of tasks to be performed by the enterprise or the partner in order to fulfill the transaction.

27. (Original) The system of claim 26, wherein the processing facility is operable to notify the partner of any tasks to be performed by the partner.

28. (Original) The system of claim 25, wherein the processing facility is operable to initiate at least one process manager routine for managing the workflow.

29. (Original) The system of claim 26, wherein the workflow comprising a routing workflow for routing the request to the enterprise or the partner for performance of the tasks.

30. (Original) The system of claim 17, wherein processing facility is operable to alert the partner or the enterprise.

31. (Original) The method of claim 17, wherein the processing facility is operable to monitor a service level associated with the transaction.

32. (Original) A system for managing one or more transactions involving an enterprise and at least one partner in a supply chain, the system comprising:

a database operable to store real-time data relating to the one or more transactions, the database operable to maintain a respective context for each transaction; and

an execution process engine operable to execute a respective workflow in the context for each transaction using the real-time data, each workflow comprising a plurality of tasks to be performed by the enterprise or the partner in order to fulfill the respective transaction.

33. (Original) The system of claim 32, further comprising one or more process manager components operable to manage the workflows.

34. (Original) The system of claim 32, wherein at least one business object is generated for each workflow.

35. (Original) The system of claim 34, further comprising one or more business object managers operable to manage each business object.

36. (Original) The system of claim 32, wherein each workflow comprises a process for transforming the real-time data according to a business policy between the enterprise and the partner.

37. (Original) The system of claim 32, wherein the database is operable to maintain one or more business policies relating to the partner.

38. (Original) A system for processing a transaction involving an enterprise and at least one partner in a supply chain, the system comprising:

a database operable to store real-time data relating to the transaction;

at least one process workflow executing on a processing facility, the process workflow operable to process the transaction; and

a data access layer operable to provide the process workflow access to the real-time data relating to the transaction, thereby providing a context for the transaction during processing.

39. (Original) The system of claim 38, wherein the at least one workflow comprises a plurality of tasks to be performed by the enterprise or the partner in order to fulfill the respective transaction.

40. (Original) The system of claim 38, further comprising a business data manger component operable to manage the at least one process workflow.

41. (Original) A network system for managing a supply chain, the network system comprising:

a network execution component operable to administer a transaction involving an enterprise and at least one partner in the supply chain; and

a network domain gateway in communication with the network execution component, the network domain gateway operable to communicate with a partner coordinator component integrated with an existing system of the partner to provide real-time data relevant to the transaction from the existing system of the partner to the network execution component.

42. (Original) The network system of claim 41, wherein the network execution component executes at least one process workflow operable to transform the real-time data relevant to the transaction based on business rules for the supply chain.

43. (Original) The network system of claim 41, wherein the network domain gateway comprises a transport component operable to send or receive one or more messages related to the transaction.

44. (Original) The network system of claim 41, wherein the network domain gateway comprises a gateway router component operable to route one or more messages relating to the transaction between the existing system of a partner and an existing system of the enterprise.

45. (Original) The network system of claim 44, wherein the gateway router component is operable to perform context-based routing of messages related to the transaction.

46. (Original) The network system of claim 41, further comprising a messaging system operable to generate one or more messages for the real-time data and to rout the messages within the network system.

47. (Original) The network system of claim 41, wherein the network execution component is operable to manage at least one process workflow for the transaction.

48. (Original) The network system of claim 41, further comprising a database operable to store the real-time data.

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49. (Original) The network system of claim 48, wherein the database is operable to store a context for the transaction.

50. (Original) The network system of claim 48, wherein the database is operable to store one or more policy rules that govern the transaction.

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EVIDENCE APPENDIX

NONE

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RELATED PROCEEDINGS APPENDIX

NONE

Designed for



Microsoft
Windows NT
Windows 95



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Robert Lyon, Roslyn Lutsch

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real-time \rēl'tīm\ *adj.* Of or relating to a time frame imposed by external constraints. Real-time operations are those in which the machine's activities match the human perception of time or those in which computer operations proceed at the same rate as a physical or external process. Real-time operations are characteristic of aircraft guidance systems, transaction-processing systems, scientific applications, and other areas in which a computer must respond to situations as they occur (for example, animating a graphic in a flight simulator or making corrections based on measurements).

real-time animation \rēl'tīm an-ə-mā'shən\ *n.* Computer animation in which images are computed and updated on the screen at the same rate at which the objects simulated might move in the real world. Real-time animation allows dynamic involvement by the user because the computer can accept and incorporate keystrokes or controller movements as it is drawing the next image in the animation sequence. Arcade-style animation (such as in a flight simulator program) makes use of real-time animation in translating game plays into on-screen actions. In contrast, in animation done in virtual time, image frames are first calculated and stored and later replayed at a higher rate to achieve smoother movement. *See also* animation, bit block.

real-time clock \rēl'tīm klok\ *n.* *See* clock (definition 2).

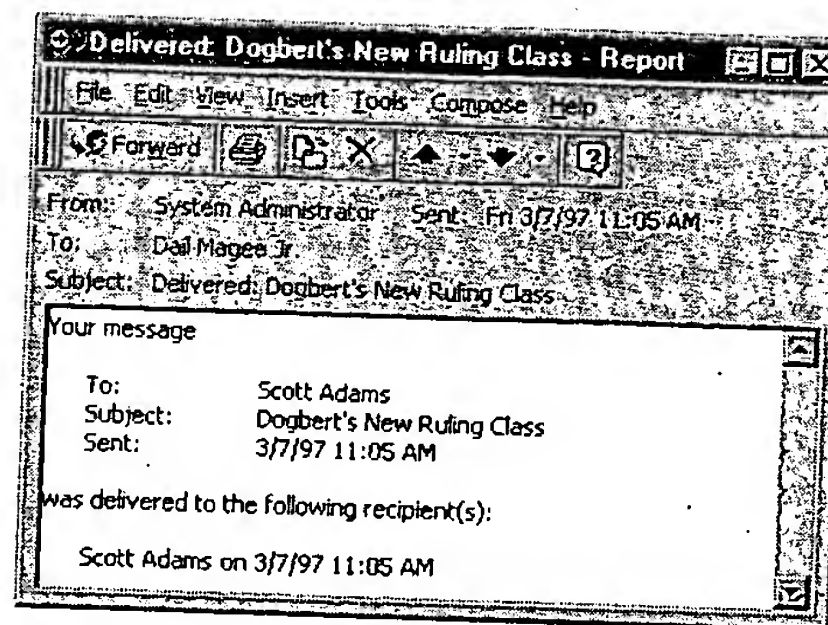
real-time conferencing \rēl'tīm kon'frən-sēng\ *n.* *See* teleconferencing.

real-time operating system \rēl'tīm op'ər-ā-tēng sī'stəm\ *n.* An operating system designed or optimized for the needs of a process-control environment. *See also* real-time system.

real-time system \rēl'tīm sī'stəm\ *n.* A computer and/or a software system that reacts to events before the events become obsolete. For example, airline collision avoidance systems must process radar input, detect a possible collision, and warn air traffic controllers or pilots while they still have time to react.

reboot \rē-bōōt\ *vb.* To restart a computer by reloading the operating system. *See also* boot², cold boot, warm boot.

receipt notification \rə-sēt' nō-tə-fə-kā'shən\ *n.* An e-mail feature providing feedback to the sender that a message has been received by the recipient. *See* the illustration.



Receipt notification

receive \rə-sēv\ *vb.* To accept data from an external communications system, such as a local area network (LAN) or a telephone line, and store the data as a file.

Receive Data \rə-sēv' dā'tə, dat'ə\ *n.* *See* RXD.

rec. newsgroups \rek'dot-nōōz'grōōps\ *n.* Usenet newsgroups that are part of the rec. hierarchy and whose names have the prefix "rec." These newsgroups cover topics devoted to discussions of recreational activities, hobbies, and the arts. *See also* newsgroup, traditional newsgroup hierarchy, Usenet. *Compare* comp. newsgroups, misc. newsgroups, news. newsgroups, sci. newsgroups, soc. newsgroups, talk. newsgroups.

recompile \rē'kəm-pīl\ *vb.* To compile a program again, usually because of changes that needed to be made in the source code in response to error messages generated by the compiler. *See also* compile.

record¹ \rek'ərd\ *n.* A data structure that is a collection of fields (elements), each with its own name and type. Unlike an array, whose elements all represent the same type of information and are accessed using an index, the elements of a record represent different types of information and are accessed by name. A record can be accessed as a collective unit of elements, or the elements can be accessed individually. *See also* array, data structure, type¹ (definition 1).

record² \rə-kōrd\ *vb.* To retain information, usually in a file.

record format \rek'ərd fōr'mat\ *n.* *See* record structure.

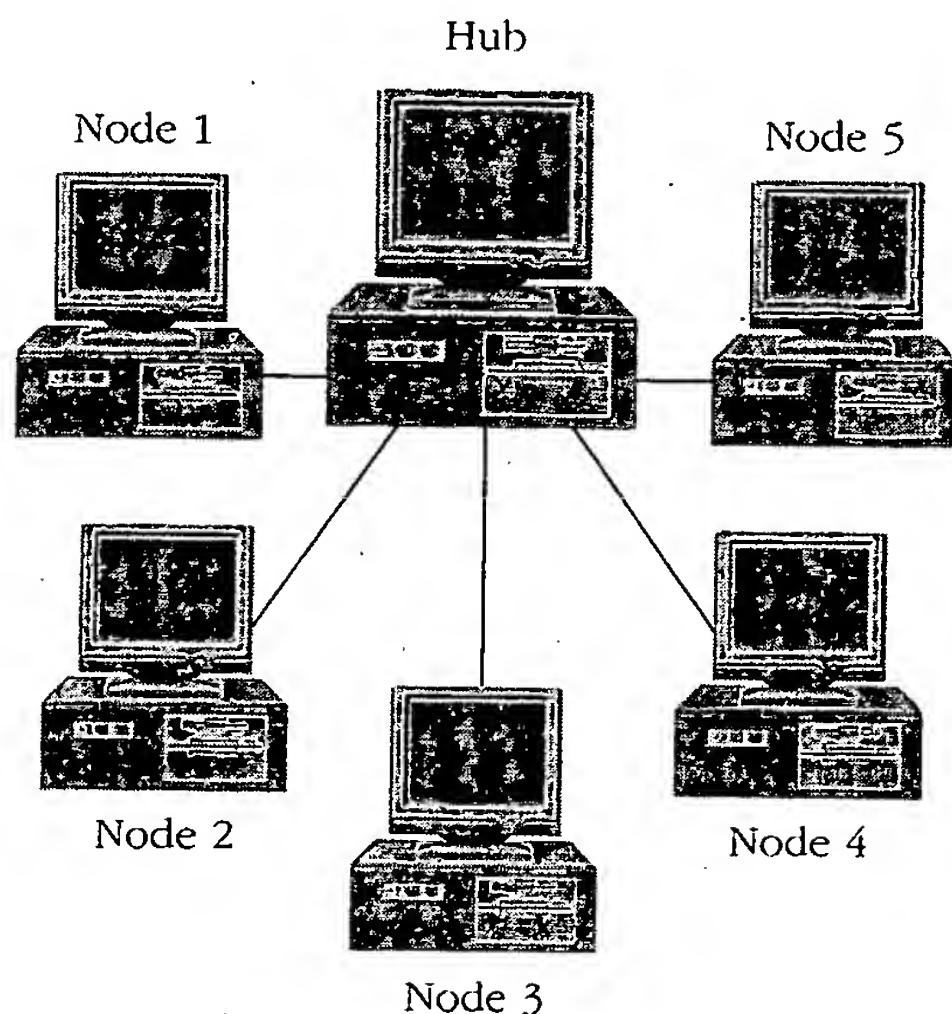
record head \rə-kōrd' hed\ *n.* The device in a tape machine that places data on the tape. In some



Standard Generalized Markup Language \stan`dərd jen`ər-ə-līzd mār`k`up lang`wəj\ *n.* See SGML.

star-dot-star \stär`dot-stär\ *n.* A file specification (*.*) using the asterisk wildcard, which means "any combination of filename and extension" in operating systems such as MS-DOS. *See also* asterisk (definition 2), wildcard character.

star network \stär`net`wərk\ *n.* A local area network (LAN) in which each device (node) is connected to a central computer in a star-shaped configuration (topology); commonly, a network consisting of a central computer (the hub) surrounded by terminals. *See the illustration. Compare* bus network, ring network.



Star network.

start bit \stärt`bit\ *n.* In asynchronous transmission, the bit that signals the beginning of a character. *See also* asynchronous transmission.

Start button \stärt`but`ən\ *n.* In Microsoft Windows 95, the control on the desktop task bar that opens the main menu. *See the illustration.*



Start button.

starting point \stär`tēng point\ *n.* A World Wide Web document designed to help users begin navigating the Web. A starting point often contains tools such as search engines and hyperlinks to selected Web sites. *See also* hyperlink, search engine (definition 2), World Wide Web.

start page \stärt`pāj\ *n.* *See* home page (definition 2).

start/stop transmission \stärt`stop tranz-mish`ən\ *n.* *See* asynchronous transmission.

startup \stärt`up\ *n.* *See* boot¹.

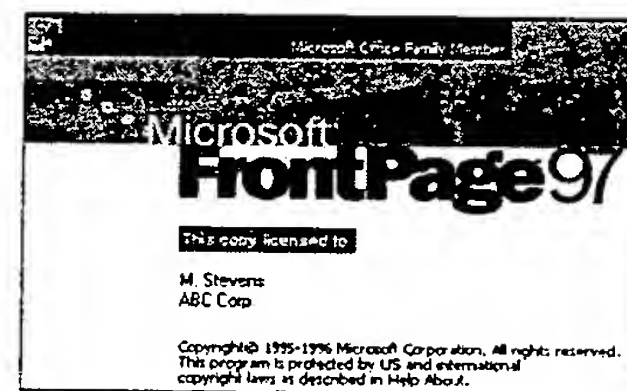
startup application \stärt`up a`plə-kā`shən\ *n.* On the Macintosh, the application that takes control of the system when the computer is turned on.

STARTUP.CMD \stärt`up-dot`C-M-D\ *n.* A special-purpose batch file stored in the root directory of the startup disk in OS/2—the OS/2 equivalent of an MS-DOS AUTOEXEC.BAT file.

startup disk \stärt`up disk\ *n.* *See* system disk.

startup ROM \stärt`up rom`, R-O-M\ *n.* The bootstrap instructions coded into a computer's ROM (read-only memory) and executed at startup. The startup ROM routines enable a computer to check itself and its devices (such as the keyboard and disk drives), prepare itself for operation, and run a short program to load an operating-system loader program. *See also* boot¹, power-on self test.

startup screen \stärt`up skrēn\ *n.* A text or graphics display that appears on the screen when a program is started (run). Startup screens usually contain information about the software's version and often contain a product or corporate logo. *See the illustration.*



Startup screen.

state \stāt\ *n.* *See* status.

stateful \stāt`ful\ *adj.* Of or pertaining to a system or process that monitors all details of the state of an activity in which it participates. For example,

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stateful handling of messages takes account of their content. *Compare* stateless.

stateless \stāt'ləs\ *adj.* Of or pertaining to a system or process that participates in an activity without monitoring all details of its state. For example, stateless handling of messages might take account of only their sources and destinations but not their content. *Compare* stateful.

statement \stāt'mənt\ *n.* The smallest executable entity within a programming language.

state-of-the-art \stāt'əv-dhē-ärt\ *adj.* Up to date; at the forefront of current hardware or software technology.

state.us \dot-stāt'dot-U-S\ *n.* On the Internet, the major geographic domain specifying that an address belongs to a state government in the United States.

static¹ \stat'ik\ *adj.* In information processing, fixed or predetermined. For example, a static memory buffer remains invariant in size throughout program execution. The opposite condition is *dynamic*, or ever-changing.

static² \stat'ik\ *n.* In communications, a crackling noise caused by electrical interference with a transmitted signal. *See also* noise (definition 2).

static allocation \stat'ik al-ə-kā'shən\ *n.* Apportionment of memory that occurs once, usually when the program starts. The memory remains allocated during the program's execution and is not deallocated until the program is finished. *See also* allocate, deallocate. *Compare* dynamic allocation.

static binding \stat'ik bīn'dēng\ *n.* Binding (converting symbolic addresses in the program to storage-related addresses) that occurs during program compilation or linkage. *Also called* early binding. *Compare* dynamic binding.

static electricity \stat'ik ə-lek-tris'ə-tē, ē-lek-tris'ə-tē\ *n.* An electrical charge accumulated in an object. Although generally harmless to humans, the discharge of static electricity through an electronic circuit can cause severe damage to the circuit.

static RAM \stat'ik ram', R-A-M\ *n.* A form of semiconductor memory (RAM) based on the logic circuit known as a flip-flop, which retains information as long as there is enough power to run the device. Static RAMs are usually reserved for use in caches. *Acronym:* SRAM (S'ram, S'R-A-M). *See also* cache, RAM. *Compare* dynamic RAM.

stationery¹ \stā'shə-nâr'ē\ *adj.* Describing a type of document that, when opened by the user, is duplicated by the system; the copy is opened for the user's modification while the original document remains intact. Stationery documents can be used as document templates or boilerplates. *See also* boilerplate, template (definition 5).

stationery² \stā'shə-nâr'ē\ *n.* A stationery document. *See also* stationery¹.

statistical multiplexer \stə-tis'tə-kəl mul'ti-pleks-ər\ *n.* A multiplexing device that adds "intelligence" to time-division multiplexing by using buffering (temporary storage) and a microprocessor to combine transmission streams into a single signal and to allocate available bandwidth dynamically. *Also called* stat mux. *See also* dynamic allocation, multiplexing, time-division multiplexing.

statistics \stə-ti'stiks\ *n.* The branch of mathematics that deals with the relationships among groups of measurements and with the relevance of similarities and differences in those relationships. *See also* binomial distribution, Monte Carlo method, probability, regression analysis, standard deviation, stochastic.

stat mux \stat'muks\ *n.* *See* statistical multiplexer.

status \stat'us, stā'tus\ *n.* The condition at a particular time of any of numerous elements of computing—a device, a communications channel, a network station, a program, a bit, or other element—used to report on or to control computer operations.

status bar \stat'us bār, stā'tus\ *n.* In Microsoft Windows, a space at the bottom of many program windows that contains a short text message about the current condition of the program. Some programs also display an explanation of the currently selected menu command in the status bar. *See the* illustration.

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Status bar.

status codes \stat'us kōdz, stā'tus\ *n.* Strings of digits or other characters that indicate the success or failure of some attempted action. Status codes were commonly used to report the results of early computer programs, but most software today uses words or graphics. Internet users, especially those

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THE ILLUSTRATED DICTIONARY OF ELECTRONICS

FOURTH EDITION

Rufus P Turner and Stan Gibilisco

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from the room.
reference

FOURTH EDITION
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star rectifier See *wye-rectifier*.

starter 1. An ignitor electrode in an ignitron (see *ignitor*). 2. Starting box.

starting box A special rheostat for starting a motor gradually in steps and provided with an electromagnet for holding the arm in the maximum-speed position and releasing it when power is interrupted.

starting rod The ignitor electrode in an ignitron.

starting voltage 1. For a gas tube, the minimum voltage that will initiate the glow discharge. 2. In appropriate solid-state devices (e.g., a diac), the voltage at which conduction between electrodes occurs.

start lead The lead attached to the first turn of a coil. Also called *inside lead*. Compare *finish lead*.

start-stop multivibrator A one-shot multivibrator (see *monostable multivibrator*).

stat A prefix denoting *electrostatic*.

statampere The cgs electrostatic unit of current; 1 statampere = $3.335\,640 \times 10^{-10}$ ampere.

statcoulomb The cgs electrostatic unit of charge; 1 statcoulomb = $3.335\,640 \times 10^{-1}$ coulomb.

state 1. The present condition (i.e., on or off, true or false, 0 or 1, high or low) of a bistable device, such as a flip-flop. 2. The physical or electrical condition or status of a component, device, circuit, or system.

statement The contents of a line in a source language computer program.

state of charge The amount of charge, measured in coulombs or ampere hours, in a storage battery at a given time.

states of matter The four phases (gas, liquid, solid, and plasma) in which matter can exist. See separate listings under *gas*, *liquid*, *plasma*, and *solid*.

statfarad The cgs electrostatic unit of capacitance; 1 statfarad = $1.112\,650 \times 10^{-12}$ farad.

stathenry The cgs electrostatic unit of inductance; 1 stathenry = $8.987\,554 \times 10^{11}$ henrys.

static 1. Pertaining to that which is constant in quantity (e.g., static collector current of a transistor). 2. Pertaining to that which is at rest, e.g., static electricity. 3. Atmospheric electricity and the radio noise it produces (see *atmospheric electricity* and *atmospheric noise*). 4. Pertaining to tests and measurements made without subjecting the unit or device to regular operation, as opposed to *dynamic*.

static base current See *dc base current*.

static base resistance See *dc base resistance*.

static base voltage See *dc base voltage*.

static cathode current See *dc cathode current*.

static cathode resistance See *dc cathode resistance*.

static cathode voltage See *dc cathode voltage*.

static characteristic An operating characteristic determined from constant rather than alternating or fluctuating values of independent and dependent variables. Examples: the dc characteristics of transistors and electron tubes. Compare *dynamic characteristic*.

static charge Energy stored in a stationary electric field; electricity at rest.

static collector A device that grounds the rotating wheels of a motor vehicle, thereby removing the static electricity generated by the friction of the tires on the roadway.

static collector current See *dc collector current*.

static collector resistance See *dc collector resistance*.

static collector voltage See *dc collector voltage*.

static convergence In a color-TV picture tube, convergence of the three undeflected electron beams at the center of the aperture mask.

static device A device with no moving parts.

static discharge resistor A fixed resistor (typically 330K) connected between the earth and the high side of the power line in a TV receiver to drain off charges due to lightning.

static drain current See *dc drain current*.

static drain resistance See *dc drain resistance*.

static drain voltage See *dc drain voltage*.

static dump In computer practice, a dump occurring at a predetermined point in a program run or at the end of the run.

static electricity Energy in the form of a stationary electric charge, such as that stored in capacitors and thunderclouds or produced by friction or induction.

static emitter current See *dc emitter current*.

static emitter resistance See *dc emitter resistance*.

static emitter voltage See *dc emitter voltage*.

static flip-flop A flip-flop (see *bistable multivibrator*) in which the operating voltages are dc. A single pulse switches the unit from on to off, and vice versa. Compare *dynamic flip-flop*.

static frequency multiplier A magnetic-core device—similar to a magnetic amplifier or peaking transformer—that provides harmonics by distorting a sine-wave signal.

static gate current See *dc gate current*.

static gate resistance See *dc gate resistance*.

static gate voltage See *dc gate voltage*.

static grid current See *dc grid current*.

static grid voltage See *dc grid voltage*.

static hysteresis The condition in which the magnetization of a material (when it has the same intensity as the magnetizing force) is different when the force is increasing than when it is decreasing, regardless of the time lag. Compare *viscous hysteresis*.

static induction See *electrostatic induction*.

static machine See *electrostatic generator*.

static memory In a computer, a memory unit in which information is stored in a discrete cell, where it remains until read out or erased. Examples: magnetic-core memory, magnetic-disk memory, magnetic-drum memory, magnetic-tape memory. Compare *volatile memory*.

static mutual conductance See *static transconductance*.

static plate current See *dc plate current*.

static plate resistance See *dc plate resistance*.

static plate voltage See *dc plate voltage*.

statics The study of forces, bodies, poles, charges, or fields at rest or in equilibrium. Compare *dynamics*.

static screen current See *dc screen current*.

static screen resistance See *dc screen resistance*.

static screen voltage See *dc screen voltage*.

static skew In magnetic tape recording or playback, the amount of lead or lag time of one track with respect to another. Ideally, the static skew should be zero or practically zero.

static source current See *dc source current*.

static source resistance See *dc source resistance*.

static source voltage See *dc source voltage*.